



Amendment Under 37 C.F.R. § 1.111
US Appln. 10/543,057

Atty. Docket: Q89292

AMENDMENTS TO THE CLAIMS

1. (currently amended): An actuator comprising:

an electric motor;

a screw shaft connected to a rotational shaft of the electric motor in such a manner as to be capable of transmitting power;

a first gear portion formed on an entire outer circumferential surface, except for shaft support portions, of said rotational shaft;

a nut member disposed on a periphery of the screw shaft and connected to the rotational shaft of the electric motor in such a manner as to be capable of transmitting the power;

a second gear portion directly formed on a flange portion of said nut member; and

a ball rolling within a spiral groove formed between the screw shaft and the nut member,

characterized in that the rotational speed of the screw shaft and the rotational speed of the nut member are different.

2. (original): The actuator as set forth in Claim 1, characterized in that the screw shaft and the nut member rotate in the same direction.

3. (previously presented): The actuator as set forth in Claim 1, characterized in that one of the screw shaft and the nut member is made stationary with respect to an axial direction, and the other is allowed to move in the axial direction.

4. (currently amended): An actuator as set forth in Claim 1, characterized in that a first gear and a second gear, which have different numbers of teeth from each other, are integrally formed on the first gear portion rotational shaft of the electric motor, and

a third gear and a fourth gear are integrally formed, respectively, on the screw shaft and the second gear portion of the nut member, whereby the first and second gears mesh with the third and fourth gears, respectively.

5. (original): An actuator as set forth in Claim 4, characterized in that a facewidth of the first gear and a facewidth of the second gear are different from each other.

6. (original): An actuator as set forth in Claim 5, characterized in that one of the screw shaft and the nut member is made stationary with respect to the axial direction, whereas the other is allowed to move in the axial direction, and

in that of the first gear and the second gear, the facewidth of the gear which meshes with the gear formed integrally on the member which is allowed to move in the axial direction is longer than the facewidth of the other gear.

7. (currently amended): An actuator as set forth in Claim 4, characterized in that at least either the gear integrally formed on the member which is allowed to move in the axial direction, or the gear on the rotational shaft which ~~mesh~~ meshes with the gear formed on the member which is allowed to move in the axial direction, is made from a resin.

8. (previously presented): An actuator as set forth in Claim 3, characterized in that a member to be driven is mounted on the member which is allowed to move in the axial direction via a thrust bearing.

9. (original): An actuator as set forth in Claim 8, characterized in that the member to be driven is a brake pad.

10. (original): An electric brake system characterized in that a caliper is made up of the actuator set forth in Claim 9.

11. (previously presented): A brake system characterized by usage of the actuator set forth in Claim 1.

12. (new): An actuator as set forth in Claim 1, wherein said second gear portion is directly formed on an outer peripheral surface of said flange portion of said nut member.

13. (new): An actuator as set forth in Claim 1, wherein a diameter of said second gear portion is the same as a diameter of said flange portion.

14. (new): An actuator as set forth in Claim 1, wherein said flange portion is disposed on said nut member so that there is no relative axial movement between said second gear portion and the spiral groove of said nut member as said nut member and said screw shaft undergo relative rotation.